

Motive Power ***MotionGel*** Series

PzV DIN, PzVB BS



systems-sunlight.com

MotionGel Series

As a member of a strong and developing business ecosystem, SUNLIGHT relies on its modern infrastructure, continuous innovation and its passion for excellence, to develop and supply reliable battery solutions.

At the core of the company's growth lies its state-of-the-art manufacturing plant in Northern Greece, covering an area of 142.000 m². The company has consistently invested in developing one of the most advanced industrial plants in Europe, running highly specialized production and assembly lines. The plant is fully compliant with the strictest international standards and is certified for Quality, Occupational Health & Safety and Environmental management systems.

The products are developed by SUNLIGHT's R&D team which constantly designs and evaluates new innovative solutions to better meet market needs based on the latest technological trends, industry developments and market feedback.

SUNLIGHT's products and services have gained international recognition by ensuring uninterrupted and reliable operations in a wide range of critical applications for a broad spectrum of industries, including Material Handling and Logistics.

The complete Motive Power portfolio consists of:

**Motive Power
Cells & Batteries**

**HydroSave
Series**

**MotionGel
Series**

**Full list of
accessories***

*Including Chargers
and Battery Monitoring Systems

Sunlight MotionGel Series, maintenance-free PzV cell, is a tubular plate, valve-regulated gas recombination GEL cell series created to enhance the solution portfolio offered to our customers in the Material Handling industry.

PzV type cells are suitable for use in storage areas of food, pharmaceutical and chemical products and meet the requirements of low to normal duty operation profiles.

PzV cell range complies to the DIN EN 60254-2 standard offering full compatibility and flexibility to customers.

Cell

Designed & Manufactured for Ultimate Performance & Longevity



1 Positive Grid

- ⚙️ Die Casted Grid using Optimized Lead Calcium Tin Alloy
- ✓ High tensile strength, corrosion resistance, excellent interface with the active mass

2 Positive Active Mass

- ⚙️ 100% Red Lead
- ✓ Efficient formation ensures that full cell capacity is achieved after 3-5 cycles
- ⚙️ Dry filling Process
- ✓ Uniformly filled positive plates, 100% weight controlled
- ⚙️ In house Red Lead production
- ✓ Constant quality, homogeneous tamped density
- ⚙️ Produced by 99,99% Primary Lead
- ✓ Long service life, high conductivity, increased performance

3 Gauntlet

- ⚙️ Woven, high quality polyester
- ✓ Prevents mass shedding, high mechanical stability

4 Bottom Bar

- ⚙️ Ultrasonically Welded
- ✓ Provides space for the unavoidable growth of the spine

5 Negative Grid

- ⚙️ Gravity Casted Grid using Optimized Lead Calcium Tin Alloy
- ✓ High tensile strength, corrosion resistance, low water consumption

6 Negative Active Mass

- ⚙️ In house production of Lead Oxide
- ✓ Constant quality
- ⚙️ Fully automatic Vacuum Negative Paste Mixing Process
- ✓ Consistency of the Negative Active Mass

⚙️ Key Features
⚙️ Design Features
✓ Benefits

7 Separator

- ⚙️ Highly porous leaf separator
- ✓ Increased performance preventing short-circuits

8 High Gel Purity

- ⚙️ Fully plasticized filling apparatus
- ✓ Elimination of impurities

9 Vacuum Gel Filling

- ⚙️ Ensures that no gas is trapped between and inside the plates

10 Pole Terminal

- ⚙️ Innovative conical design of the pole sealing system
- ✓ Uses the unavoidable growth of the plates to press against the grommet and improve the sealing
- ⚙️ Tin plated 16 mm diameter inserts

11 Pole Bridge

- ⚙️ Cast On Strap manufactured pole bridge
- ✓ Consistent & uniform composition ensures superior connections

12 Lid

- ⚙️ Polypropylene reinforced lid thermo-welded to the container

13 Cell Container

- ⚙️ Polypropylene container ensures mechanical strength

14 Valve

- ⚙️ Pressure relief, integral flame arrestor
- ✓ Maintenance-free design, no water topping-up needs

The Foundations of the SUNLIGHT cell

Technology Choices based on Submarine Batteries | Solid Design for Long Life in Tough Conditions

Manufactured on the Best-in-Class Equipment | Uncompromised use of Raw Materials | Fully Controlled Production Process

Applications

- PzV batteries can be used in forklift trucks, cleaning machines and other electric vehicles which are operated in areas where sensitive products are stored under strict regulations that do not allow the presence of any liquid electrolyte.
- Storage areas with limited charging space or without specially equipped charging station.
- In low temperature product storage facilities.



- Where maintenance-free operation is a must, either for practical or financial reasons.
- Recommended for low to normal duty operating conditions. In the case of more demanding operations such as:
 - multi-shift operation,
 - 80% Depth of Discharge,
 - opportunity charging,
 - 8 hours charging periods,
 the capacity should not exceed 600-650 Ah for 24V, 350 Ah for 48V or 200 Ah for 80V batteries.

Complete Battery Features

• **Minimal maintenance costs.** Thanks to the integrated safety recombination valve, no topping up is required throughout the battery's entire operational life.

• **Flexibility and compatibility.** The cells are fully compatible to IEC 60254 – 2 and they are direct bolt on making repairs an absolute breeze.

• **PbCaSn plate alloy.** The specially formulated plate alloy minimizes the water consumption of the batteries, extending its expected operational life even further.

• **Uniform performance at each and every cycle.** The gelled electrolyte completely eliminates acid stratification ensuring consistent performance and high operational life expectancy.

• **Minimum initial investment costs.** No need for special charging areas, as the gas-ging of the batteries during recharge is negligible.

• **Increased user safety.** The electrolyte is encapsulated in the cells so the contact of the user with it, is practically impossible.

• **Available in any voltage configuration and in any container type or form required.** As a general guideline the following battery configurations are recommended for commercial uses.

For 24V batteries maximum capacity of 600-650 Ah

For 48V batteries maximum capacity 350 Ah

For 80V batteries maximum capacity of 200 Ah

If there is a need for a different configuration please consult with our representatives.

Available Accessories

Chargers

Sunlight FILON FUTUR Series

An innovative range of High Frequency chargers which offers safe and fast recharge to your PzV / PzVB batteries by utilizing du/dt control while on the same time offering excellent energy utilization.



Battery Monitoring System

Sunlight eGO! Series

A highly advanced data collection system permanently fixed on your battery. This information can be stored remotely and can be used to help the user understand and improve the usage of his battery.



PzV - DIN Product Range

Plate Type: 55 Ah

Type Designation	Nominal Capacity Ah (C ₃)	max cell dimensions mm*		Weight in kg
		b: 198	h1: 343	
			h2: 370	
			I	
2 PzV 110	110	47	9.0	
3 PzV 165	165	65	12.7	
4 PzV 220	220	83	16.5	
5 PzV 275	275	101	20.2	
6 PzV 330	330	119	23.9	

Plate Type: 70 Ah

Type Designation	Nominal Capacity Ah (C ₃)	max cell dimensions mm*		Weight in kg
		b: 198	h1: 408	
			h2: 435	
			I	
2 PzV 140	140	47	10.9	
3 PzV 210	210	65	15.4	
4 PzV 280	280	83	19.9	
5 PzV 350	350	101	24.4	
6 PzV 420	420	119	28.9	

Plate Type: 85 Ah

Type Designation	Nominal Capacity Ah (C ₂₀)	max cell dimensions mm*		Weight in kg
		b: 198	h1: 478	
			h2: 505	
			I	
2 PzV 170	170	47		12.7
3 PzV 255	255	65		17.9
4 PzV 340	340	83		23.2
5 PzV 425	425	101		28.3
6 PzV 510	510	119		33.6

Plate Type: 110 Ah

Type Designation	Nominal Capacity Ah (C _j)	max cell dimensions mm*		Weight in kg
		b: 198	h1: 568	
			h2: 595	
			I	
2 PzV 220	220	47		15.4
3 PzV 330	330	65		22.0
4 PzV 440	440	83		28.7
5 PzV 550	550	101		35.3
6 PzV 660	660	119		42.1

Plate Type: 120 Ah

Type Designation	Nominal Capacity Ah (C ₉)	max cell dimensions mm*		Weight in kg
		b: 198	h1: 688	
			h2: 715	
			I	
2 PzV 240	240	47		18.7
3 PzV 360	360	65		26.5
4 PzV 480	480	83		34.4
5 PzV 600	600	101		42.2
6 PzV 720	720	119		50.1

Plate Type: 130 Ah

Type Designation	Nominal Capacity Ah (C ₂₀)	max cell dimensions mm*		Weight in kg
		b: 198	h1: 713	
			h2: 740	
			I	
2 PzV 260	260	47		19.2
3 PzV 390	390	65		27.3
4 PzV 520	520	83		35.5
5 PzV 650	650	101		43.5
6 PzV 780	780	119		51.7

PzVB - BS Product Range

Plate Type: 52 Ah

Type Designation	Nominal Capacity Ah (C ₂₀)	max cell dimensions mm*		Weight in kg
		b: 158	h1: 401	
			h2: 428	
			I	
2 PzVB 104	104	45		8.4
3 PzVB 156	156	61		11.5
4 PzVB 208	208	77		14.6
5 PzVB 260	260	93		17.8
6 PzVB 312	312	109		20.9

Plate Type: 60 Ah

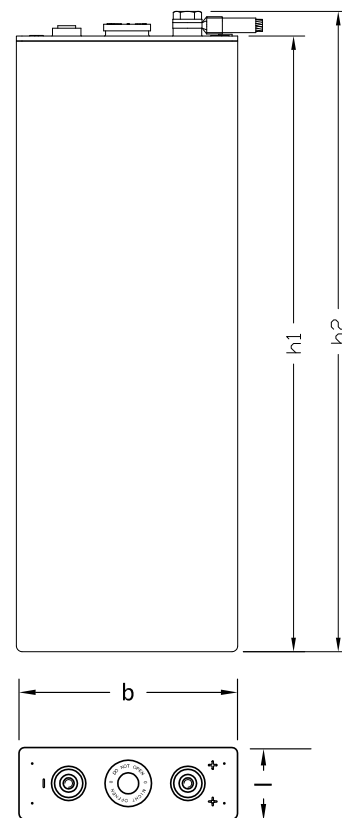
Type Designation	Nominal Capacity Ah (C ₉)	max cell dimensions mm*		Weight in kg
		b: 158	h1: 457	
			h2: 484	
			I	
2 PzVB 120	120	45	9.6	
3 PzVB 180	180	61	13.2	
4 PzVB 240	240	77	16.8	
5 PzVB 300	300	93	20.5	
6 PzVB 360	360	109	24.1	

Plate Type: 70 Ah

Type Designation	Nominal Capacity Ah (C ₉)	max cell dimensions mm*		Weight in kg
		b: 158	h1: 514	
			h2: 541	
			I	
2 PzVB 140	140	45	10.9	
3 PzVB 210	210	61	14.9	
4 PzVB 280	280	77	19.0	
5 PzVB 350	350	93	23.1	
6 PzVB 420	420	109	27.3	

Plate Type: 85 Ah

Type Designation	Nominal Capacity Ah (C ₉)	max cell dimensions mm*		Weight in kg
		b: 158	h1: 606	
			h2: 633	
			I	
2 PzVB 170	170	45	12.9	
3 PzVB 255	255	61	17.7	
4 PzVB 340	340	77	22.6	
5 PzVB 425	425	93	27.5	
6 PzVB 510	510	109	32.4	



* Cells' dimensions according to IEC 60254-Part 2

** For customers' specific request please consult Systems Sunlight Product Dept.



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